The Vocabularies of Teaching Units

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A VERY DEFINITE suggestion to students of vocabulary arises from the present movement toward the organization of elementary school work about what are usually called units. We all know the enormous mass of literature which has developed about the unit idea. Every educational magazine carries in every issue, it seems, descriptions of the way teachers somewhere have organized their teaching by units. New text books in almost all fields are divided into units, and professional books concerning unit teaching appear continually.

We shall not attempt to explain exactly what a unit is since this is a matter of much controversy. But unit teaching seems to be, in essence, the organization of learning around more or less clearly defined topics. The purpose is to give the learning more meaning in the life of the child. This greater meaning arises partly from the growing tendency to have children get more concrete experiences— sensory, manual, social, and otherwise— along with unit study. It also seems to arise from the greater organization of experience that topical study seems to bring about. These tendencies toward more experience and more organized experiences are with us and will undoubtedly remain with us. Therefore units of some kind are probably here to stay. The great discussion now is as to what units should be used, how they should be related, how they should be conducted, and so on. We do not wish to discuss those questions here. We simply wish to point out the significance of units for vocabulary study.

Vocabulary study is the study of concepts. It has mistakenly been called the study of words, with the notion that words are merely groups of letters that happen to be found on printed pages. From a type-setter's point of view, words are groups of letters, but no one who ever used a word thought of it as a mere group of letters. In use, a word is a concept or idea. It represents a mental reality to the user and should represent a mental reality to the reader. To the user, it is a symbol for something in his past experience. Its importance is the past experience it represents. To the reader it is also important as a representation of ex-

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perience. To the student of vocabulary it is of interest in the same way. Therefore study of vocabulary means study of concepts or experiences.

These units which are now so popular in the school are centers of child experience. Each unit serves as a gathering point for experiences which are related, which the child can have together and think of together. Each unit is therefore a center of thought. It forms a rallying point for related concepts. Therefore it becomes a kind of vocabulary center as well.

It was with this point of view that we made a study of the vocabulary of some of the more commonly used school units. We started with the basic assumption that the characteristic subject matter of each unit would show itself in a characteristic group of concepts which might be called the vocabulary of the unit. Of course if a concept used in the unit were no different from one that the children were already familiar with, such a concept would not be characteristic of the unit and would not form a part of its vocabulary. But if new concepts or new subject matter are met with, two different situations appear. One is that the new concepts will be represented by new words. This is the situation that most persons think of when they hear the phrase, vocabulary of a unit. For instance, they think of *obi* as part of a Japanese unit. But the second situation is also very common and very important. It is the case in which new material or new concepts are represented by a familiar word with a new meaning. For instance, we might find no new word for an Indian hoe. The unit must therefore use the word *hoe*. We can use simply the word *hoe* with the understanding that a special meaning is intended, or we can use the phrase *Indian hoe*. In our own tabulation it seemed unnecessary continually to qualify words

with the adjective signifying the unit. We therefore listed the familiar words with the understanding that the special meanings of the words for the particular unit were implied. Thus a unit vocabulary would contain these two kinds of words, the words that were new altogether and the old words with new meanings.

The first unit with which we experimented was the Indian unit. This is perhaps the unit most widely used in all schools, doubtless because of its appeal to children. We set out to discover just what was taught in the Indian unit and to find the vocabulary that would indicate the concepts involved. Please note that we did not seek to say what *should* be taught in the Indian unit, but only what *is* taught under present conditions. No merely encyclopaedic or reference material was used. Eighteen books were used, all directly concerning Indian units in school. Four of these described studies of the Indian unit. Four of these were readers made up of Indian stories and ten of these were books about Indians prepared especially to be read by grade children. There is much more material than this on the Indian unit in school, but it was felt that this sampling was large enough for experimental purposes. It contained material on woods Indians, plains Indians, and pueblo Indians. Further study should be made to differentiate types, but this tabulation did not try to make such a distinction. Anyone using the resulting list should bear this fact in mind.

Each of these books was gone through carefully and all the words listed which conveyed some idea about Indian life, that is, some idea about the way in which Indian life was different or is different from our own life. These words were of the two kinds discussed above, entirely new words and old words with new mean-

ings.   Here we encountered a definite problem in any unit study.   Practically all treatment of life different from our own deals with the differences.   Few books, if any, devote time to pointing out the many ways in which the life of other people is just like our own.   All races, for instance, love their children, but this fact is seldom mentioned.   If the children get their clothes wet, the parents doubtless make them change to dry clothes. All races have indigestion if they eat the wrong things.   Thus in countless ways lives of all groups of men are quite like the lives of other groups.   This similarity is often commented on by travelers among strange peoples but it is seldom if ever mentioned in the books about them. Thus all study of other peoples tends to emphasize differences.   This study also emphasizes those differences.   This is not a defense for doing so; we merely point out a fact that should be recognized. This defect is inherited in unit teaching if not in all teaching in the schools.

After each individual book had been thus studied and a list derived from it, these lists were put together into a single unit vocabulary of 225 words.   Immediately one strange fact appeared.   There was surprising lack of agreement between the various books.   No single word on the list appeared in all eighteen of the books about Indians.   Two words appeared in ten of the books but not in the other eight.   These were *moccasin* and *blanket*.   The next in frequency were the words used in eight books: *tepee, tribe,* and *weaving*.   But we must note that eight is a minority of the eighteen books. Then there was little logic in the appearance of other words.   *Bow* appeared in six of the books and *arrow* in seven but *arrow-head* only in two.   Some of the discrepancy is due to the fact that some units dealt with forest Indians, some with plains Indians, and some with pueblo Indians.   But this fact nowhere accounts for the great inconsistencies.   We must conclude that chance of mention was the largest element.   One teacher or one author telling about Indians happened to mention some items while other teachers and authors mentioned other items.   They used the material that opportunity offered.   The results were necessarily incomplete.   It is hoped that the unit vocabulary toward which we are working will help remedy this incompleteness.

If one wishes to consider frequency of appearance as a measure of importance, he would have to consider that some facts of Indian life have more than one common name.   For instance, *brave* and *warrior* are used by different books to mean the same thing.   *Tepee* and *wigwam* are used interchangeably even though not correctly so.   For this reason we have prepared a list of the words that may be considered to have the same meaning or to be used at times with the same meaning. Therefore, if frequency of use is to be considered, some words should be counted together.   However, we have come to the conclusion that frequency on this list is a very poor measure of importance.   The various treatments of the unit were so incomplete that frequency seems entirely too much a matter of mere chance.

Our second unit was chosen as a type of a great group of common units and is one quite different from the first.   It is the unit on wheat.   For this unit on wheat nineteen books were studied.   Of these, six are separate booklets on wheat, intended for use in grade school, three are descriptions of wheat units as carried out in schools, six are wheat units in books on the social studies, and four are definite sections on wheat in geographies of America.   As with the Indian unit, there

are many more discussions of the wheat unit than those we used, but these nineteen represented a fairly good sampling for experimental purposes.

In this second tabulation, as in the case of the Indian unit, two types of words were found. Some new materials or concepts were represented by new words, whereas others were represented by familiar words with new meanings. For instance *threshing* and *bolting* are new ideas which come from the unit, but *seed* and *flour* are old words which have a new meaning that is a part of the wheat unit. The criterion in selection of words was always whether the concept involved should form an integral part of study of the unit subject. Each book was studied with these ideas in mind and a vocabulary list made from it. Then from all the books a composite unit vocabulary of 151 words was made.

As might be expected there was more agreement than in the case of the unit on Indians, but no single unit word appeared in all nineteen of the books. The most frequent word was *seed,* which appeared in fifteen books. The next most frequent was *grain* which appeared in thirteen books. *Bread* and *straw* appeared in eleven books. *Threshing machine* appeared in ten. *Flour* and *bundles* appeared in only nine books. When we consider that all nineteen of the books were presumed to describe the whole story of wheat from planting to final use by human beings, this lack of a common unit vocabulary is very surprising. As in the case of the Indian unit, we must presume that separate authors emphasized different things and that they simply forgot to mention many fundamental aspects of the subject. Here also we have the listing of the same concept under various words that may or may not be identical. *Bolting* and *sifting,* for instance, may be

the same thing, but *seeder* and *drill* may at times be used interchangeably and at other times may mean quite different machines. Thus, all things considered, frequency of use, as shown by our list, must not be taken as an entirely satisfactory measure of importance.

The third unit that we studied was the Dutch or Holland unit. Here twenty-one books were studied. Of these, six were descriptions of the unit as taught in certain schools; five were geography reading books for grade children; nine were descriptions of Holland in geographies; and one was a teacher's manual on Holland. In tabulation the same methods were followed: selection of words essential to the teaching of the unit, whether entirely new words or old words with new meanings. The result was a list of 120 words. Here again we found no unit words in all the books. The nearest was the word *canal* which appeared in eighteen out of the twenty-one. Next came *dike* in fifteen books, *windmills* in fourteen, and *wooden shoes* in thirteen. *Fishing* and *tulips* appeared in eleven books, and all the rest of the 120 words in still fewer, which means in less than half of the possible number. This was indeed surprising. One would expect *cheese* to be mentioned in any treatment of Holland but only eight out of twenty-one books used the word. Even *tulips* was used more often, in eleven books. So the results from the third unit studied agreed with those from the Indian and wheat units, that there was no agreement as to what special words were needed in teaching the unit. One treatment mentioned some concepts, another treatment mentioned others. Again there was repetition of concepts under different words, sometimes with identical meanings and sometimes not. *Harbors* and *havens* are doubtless the same. *Boats* and *barges* are

Children's Writing Vocabularies as Bases for Spelling Lists

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DUE TO THE DIFFICULTIES inherent in observing them, two significant principles of grading words for inclusion in courses of study and spelling textbooks are seldom employed. The consequence is that the exact grade placement of any given word is, to a considerable extent, a matter of chance. For instance, the examination of any two courses of study in spelling or spelling textbooks will reveal many differences of three or four grades. Any truly scientific grading of words for use in the elementary schools has yet to be published.

One principle that should be observed in grading words for instructional purposes might be called the "threshold of letter order recognition." It represents those words whose correct spellings are almost, but not quite known; those words in which the misspellings, in a large group of any given grade or age level, are reduced to one or two particular types. To apply this principle would involve pronouncing an accepted list of words to many children in each of the grades of the elementary school, and then assigning each word to the lowest grade in which the great majority of misspellings were in only one or two particular ways. A word's proper grade placement is likely to be more exact if the number of misspellings in the succeeding grade is much less, with the same types of misspellings maintained.

The other principle is in accordance with the often stated objective for teaching spelling: that the individual should be able to spell correctly the words of his written vocabulary. In effect it means that in selecting words for graded lists, consideration be given to the writing vocabularies of the children for whom a given list is intended. Since writing vocabularies are usually much larger than spelling vocabularies, this second principle is chiefly valuable in determining the grade placement of each word selected for instructional purposes. However, if this second principle is used as the sole basis for word selection, the function of spelling lessons is limited to learning the correct letter order of the words that the child already knows and uses in written communications. There is then little need to teach meanings. To get appropriately graded lists, the writing vocabularies for each grade would first have to be obtained and then so arranged that each grade would have opportunity to attempt to spell every word listed in its writing vocabulary. The grade listing for instructional purposes would then be according to the first principle mentioned above.

The present study applied the two aforementioned principles to determine what words belong in a second grade spelling list. It resulted in a list quite different in many respects from those usually found, although made up largely of the smaller and phonetically simpler of the words most frequently used according to the *Thorndike Word Book*.

This article is largely confined to that portion of the study that had to do with the selection of the writing vocabularies of second grade children as a basis for the appropriate grade placement of the words used in instructional lists.

The writing vocabularies were obtained from free compositions and letters written by 1325 second grade children attending public schools in the eastern section of the United States. Free compositions were obtained by having the children write about something of interest to them for a man at the University of Pennsylvania whom they did not know but who was interested in children and wished to know something about them. The letters were real letters children had received from other children in the course of natural correspondence. There were fourteen letters for the second grade and 1,311 compositions.

After eliminating all proper nouns and counting as a single word the derivatives formed by plural endings, progressive forms of verbs, past and perfect tenses (except for irregular verbs), and adverbs formed by adding *ly* or *ful* to simple basic forms, it was found these children had used 1,295 different basic or root words.

Presumably these words might occur all the way from the second to the eighth grade spelling lists now being used. To check this spread, comparison was made to the average grade placements given in Gates' *Spelling Difficulties in 3876 Words*. To obtain a grade placement index for each word used, Gates took the average of the grade placements as found in twenty-five spelling lists. When the derivative duplications, proper names, and abbreviations are eliminated from the Gates list to reduce it to a comparable basis—that is made up only of basic word forms—there will remain in the Gates list about 3,067 different words. We assigned each of these words to the lowest grade in which any of its forms were found in the list. The grade placements varied from 309 different words for the second grade to 490 different words in the sixth grade.

On a percentage basis it was then found that the children who furnished our data used the words in the Gates list in the following proportions: Second grade — 97.9%; third grade — 71.0%; fourth grade — 50.0%; fifth grade — 26.3%; sixth grade — 10.7%; seventh grade—4.1%; eighth grade — 0.9%.

By chance, apparently, these children did not use all the words in the Gates list for the second grade, but it is interesting to note that they did use half of those for the fourth grade, more than one-tenth of those for the sixth grade, and nearly one per cent of those listed for the eighth grade. Those listed for the second grade, but not used by these children are *arm, dove, dug, dust, hard, hog, mill, rub,* and *table.* Very likely all these words are known to second grade children in the eastern section of the country and would be used in written materials if the circumstances of the writing demanded it.

Many of the words used by the children were misspelled but apparently they were not deterred from using a word because of fear of misspelling it. Perhaps young children are less inhibited when they write and consequently there is a closer relation between their writing vocabularies and their speaking vocabularies than there is in the case of the average adult. At any rate one can understand why second grade children who are writing naturally about something in which they are interested cannot confine themselves to the words likely to be found in a second grade spelling list. Their thinking and speaking vocabularies run far beyond that. One wonders why, though, an average of the grade placements of a

great many spelling lists puts *can't* in the second grade and *cannot* in the fourth, and why *chair* is in the second and *clay* in the fifth. These and many other similar anomalies in many prevailing spelling lists make them, upon close analysis, appear ridiculous. What justification is there for putting *chicken* in the fourth grade and *chickens* in the third, or *like* in the second, *likes* and *liked* in the fourth and *likely* in the sixth?

There is now considerable valid evidence that children not only generalize in learning to spell (that is, the learning of one word enables them to learn others related to it more readily), but also that this process of transfer begins with the very first formal lessons in spelling. If this fact is capitalized in the teaching procedures the resultant list of words that can be correctly spelled at the end of any grade will be greatly in excess of the number of words usually assigned. Spelling may then be used as an active agency in enlarging the child's speaking as well as his writing vocabulary. In teaching, for instance, the three active verbs *call, cook,* and *cut,* the teacher has the opportunity of adding to the child's writing vocabulary the words *calls, called* and *calling, cooks, cooked,* and *cooking, cuts*

and *cutting,* with a minimum expenditure of nervous energy on the part of the child. There is no reason, therefore, for putting these various forms of the three words in different grade lists.

Since there is such a wide spread between the actual words second graders use in writing in natural situations and usual grade assignments, logic would seem to dictate that the place to begin in making up spelling lists for any particular grade is with the words that children of that grade use freely in writing.

The question of the number of words to be assigned to each grade would then need to be considered. The procedure for grade selection of spelling words thus far discussed would undoubtedly result in a considerable increase in the number of words usually assigned to the various grades. The lists for the various grades can be kept down to reasonable numbers by fully applying the transfer of learning principle. For instance, in addition to the transfer possibilities already mentioned, words having like phonetic elements, general conformation, and compounds can be utilized to reduce the lists to almost any number consistent with good instructional practices.

Spelling Errors in Social Science Notebooks

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FOR SOMETIME several teachers in the departmentalized upper grades in one of our city schools had been disturbed by the number of spelling errors made by pupils in their written work, particularly in social science.[1] The work in the spelling classes themselves seemed satisfactory enough. Why this lack of carry-over? Were pupils missing words which they had been taught, or were the words largely from the specialized subject vocabulary? What type of errors were being made? How many errors in proportion to words written were being made? Was the poor spelling general, or confined to a few pupils?

To determine more accurately what the situation actually was, the social science notebooks of sixty-two children, all in the seventh grade, were gathered and the spelling errors tabulated. These notebooks were in connection with two units, one purely geographic on the physical environment, covering land forms, water bodies, and atmosphere; the other was a unit entitled "Iron and Steel." The first of these units extended over forty-two forty minute periods. The latter was slightly shorter.

The assignment in each instance was in the nature of a worksheet, with questions to be answered in writing, and summaries, outlines, lists, tables, graphs, maps and diagrams to be made. Pupils were encouraged to illustrate their books by means of pictures if they wished. All

pupils were to read the basal text, and then to read widely from as many of the books on the well stocked shelves as possible. In some instances they were given specific references, but in general, since they were accustomed to this procedure, they were left to locate further material themselves. For various reasons, instead of mimeographing the worksheet, the teacher placed it on the board, piecemeal, during the first week or so. Approximately one-third of the time was given to group discussion, drill, explanation, and reports. The remainder of the time was spent largely in individual work, namely reading and carrying out the directions. There was a little group or committee work in the preparation of reports and large maps. During the whole time the attitude and interest, as far as the social science was concerned, were very satisfactory. Though no home assignments were given, a number of pupils did a good deal outside of school. Also, many children did much more than was necessary to satisfy the mere requirements. As would be expected, some children wrote more than others.

Every incorrectly spelled word was circled with a red pencil. These words were then tabulated on cards, a record being made, in each instance, of the way the child mispelled the word. Different forms of the same word were recorded separately, as for instance, volcano and volcanoes. Omissions and insertions of apostrophes, and incorrect capitalizations

were listed as misspellings. A record was also kept for each child.

The number and distribution of errors is shown in Table I.

TABLE I
NUMBER AND DISTRIBUTION OF ERRORS

Pupils	62
Total running words	98,786
Total errors	1,581
Coefficient of error*	16.004
Number of different words missed	694
Missed by one pupil only	481
Missed by two or more pupils	213
Missed by three or more pupils	95
Missed by five or more pupils	40
Missed by ten or more pupils	6

*Coefficient of error is the number of errors per thousand running words.

The 95 words missed by three or more pupils account for 714, or almost half of the total number of errors. It is with these words that the rest of the study is largely concerned.

These 95 words were then compared with the commonest 3,009 words of the Commonwealth list, with *Thorndike's Teachers Word Book,* and also with the words which appeared in the California State Speller in use at that time, below the seventh grade level. It is assumed that the children had at least been exposed, during spelling class, to those words below the seventh grade level. In making these comparisons it was necessary to make an adjustment in cases where the form used by the pupils was not the same as the form in the lists. If the error was in the root, and not in the prefix or suffix, and the root word appears in the lists, though the particular form used by the pupils does not, we have considered that the word used by the pupil was covered by the lists. For example, "affected" does not appear in any of the lists consulted, though "affect" appears in the Thorndike list. However, the three different misspellings, namely "ifected," "efected," and "effected" were all in the root "affect," and were seem-

ingly not influenced by the suffix. We have assumed that "affected" is covered by its root.

The 95 words misspelled by three or more pupils were as follows: Parenthetical numbers indicate the number of pupils misspelling the word.

affected (3), against (4), alluvial (6), another (3), antarctic (4), arctic (6), axis (3)

beautiful (5), between (3), biggest (5), bituminous (5), boundaries (6)

carrying (4), chief (4), coming (4), completely (3), crevasse (6), crop (3), crystal (15)

deposits (7), descend (5), describe (5), desert (3), different (6), dioxide (3), discovered (3), doesn't (3), down (7), dropped (4)

earth's (3), erosion (4), eruptions (3), etc. (5), evaporate (4)

fertility (3), force (3)

geysers (9), glacier (6), goes (3), gradually (3), ground (4)

Hawaiian (4), height (3)

icicle (3), igneous (3), inflammable (6), influence (3), irregular (3), irrigation (6), it's (4)

length (3), level (4), liquid (3)

mantle (3), Mediterranean (3) minerals (3), mountain (6)

Niagara (4)

off (7)

particles (4), peat (5), peninsula (3), petroleum (6), phosphorous (6), piece (3), pressure (4), principal (11),

radiation (3), region (3)

sedimentary (5), Sierra (3), source (6), stalactite (6), straight (3), stretch (4), surround (5)

temperature (6), than (4), their (12), then (4), there (7), these (4), too (13), torrid (3), transportation (3), two (6)

until (5), usually (11)

valleys (6), vegetation (7), volcano (7), volcanoes (14)

weather (3), where (7)

Yosemite (4)

The data secured from the investigation may be summarized as follows: 95 words were missed a total of 714 times. Of these, 44 appear in the commonest 3,009 of the Commonwealth list, 38 appear in the California State Speller for the first six years, and have presumably been taught, and 59 appear among the commonest 5,000 of the Thorndike List, and have undoubtedly been met by the pupils in their reading.

Of the 43 words not appearing in either the Commonwealth List nor the California Speller, we find 36 to be either social science words, or at least words peculiar to the particular unit being studied. These 36 words account for 276 of the 714 errors.

Comparisons were also made between the children. The number of running words ranged from 95, which was an incomplete notebook, to 13,663, with an average of 1,593. The number of total errors ranged from 1 to 92, with an average of 25. The number of different words misspelled by an individual child ranged from 1 to 61, with an average of 18.6. The coefficient of error ranged from 1.27 to 70.54, with an average of 16.004 (by coefficient of error is meant the number of misspelling per thousand running words). That is the most significant item, since it largely discounts the difference in length of notebook. There seemed to be a rather general relationship between the length of the material and the number of misspellings. Pupils in the first quartile, as far as length of material was concerned, ranged in coefficient of error from 2.62 to 36.20, with an average of 13.25, while pupils in the fourth quartile ranged from 2.36 to 61.53 with an average of 29.25.

In examining the individual notebooks, several striking things are brought to one's attention. In no case did the pupils have to write entirely independently of their books, and in general they worked directly from the books. That means that almost all the words, particularly those peculiar to the situation, were right in front of the child as he was working. Still, many of these words were missed. Also, in copying the questions and directions from the board many errors were made. And lastly, many pupils spelled the same words both correctly and incor-

rectly in the same notebook, sometimes on the same page. In fact, though no exact count was made, observation seemed to indicate that almost every single word which was misspelled was also spelled correctly somewhere in the same notebook.

A partial analysis of the type of errors made was attempted according to the Book and Harter plan, but did not prove very satisfactory. Many errors seemed to be due to carelessness and hurry. Some errors were due to mispronunciation, as "ifected," "efected," and "effected" for affected; "aginst" for against; "anartic" and "antartic" for antarctic. Others seemed to be due to the fact that the words were unfamiliar to the pupils, as "colluvial" and "luviall" for alluvial; "axles" for axis; "bitimious" for bituminous; and "carrosion" for erosion. Although a group of students in a summer school class in diagnostic and remedial teaching, most of them graduates and teachers in service, also worked on this analysis, there was a great lack of agreement, and a feeling of dissatisfaction with their conclusions on the part of the students themselves. It seemed almost impossible to draw the line between mispronuniciation, carelessness, and unfamiliarity.

Summary and Conclusions

Of the 95 words missed by three or more of the pupils, 38 or 40 per cent had been taught in spelling class sometime before the pupils reached the seventh grade.

Thirty-six of the 95 most frequently missed words were peculiar to the social science field or to the particular unit being studied. Only 7 of these had been taught in spelling.

The coefficient of error ranged from 1.27 to 70.54 with an average of 16.004.

It was deemed too subjective to try to determine the cause of the errors, but a

Comprehension Difficulties in a Third Grade Reader

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INVESTIGATORS and teachers alike are convinced that vocabulary is one of the most important elements affecting comprehension in reading. This recognition of the importance of the vocabulary of reading materials has produced a decided improvement in the character of the books written for the use of children and has placed a new emphasis on vocabulary instruction as a necessary factor in the teaching of reading in the elementary grades.

The Committee[1] on Reading, in the *Thirty-Sixth Yearbook* of the National Society for the Study of Education, discussing the nature of the reading process, emphasizes the fact that effective reading occurs only when the reader realizes accurate meaning, the result of correct concepts. Hence, learning to read is more than recognition of symbols on a printed page. It involves the development of a "reading vocabulary." McKee[2] points out a twofold task to be accomplished in building such a vocabulary: (1) development of a rich meaning vocabulary, that is, the building of concepts; (2) training in word recognition.

The numerous word lists and the many recent vocabulary studies in the field of reading indicate that educators and writers of children's books have not failed to give training in word recognition due attention. But research proves that a pupil equipped with the mechanical ability to pronounce words very often fails utterly to derive meaning from the material read. Dearborn[3] in "A Study of Erroneous Word Concepts in Reading" found that the most frequent errors were due to the lack of experience, lack of word recognition, and the confusion of word concepts.

The problem, then, is this: Is the character of the material in our present day readers such that it will facilitate and insure the achieving of meaning through the development of correct concepts on the part of the pupil, or are the authors more concerned about the vocabulary burden—keeping the number and the difficulty of the words well within the limits set up by scientific word lists?

Following is a summary of a study, bearing on this problem, made under the direction of Dr. Ernest Horn at the State University of Iowa.

Purpose and Method of the Study

The purpose of this investigation was to make a study of the comprehension difficulties in a third grade reader. Thirty pupils of the third grade of Holy Trinity School, Dubuque, Iowa, furnished the data for this study. The chronological ages of the pupils ranged from seven years and nine months to ten years and three months. The Intelligence Quotient range, as determined by the Kuhlmann-Anderson Intelligence Tests, was from 82 to 129, with twenty-five pupils having an I.Q. of 100 or above.

[1] "The Teaching of Reading: A Second Report." *Thirty-Sixth Yearbook of the National Society for the Study of Education.* Public School Publishing Co., Bloomington, Illinois, 1937. Ch. II.

[2] McKee, Paul. "Vocabulary Development." *Thirty-Sixth Yearbook of the National Society for the Study of Education.* Public School Publishing Company, Bloomington, Illinois, 1937. p. 277.

[3] Dearborn, Frances R. "A Study of Erroneous Word Concepts in Reading." *Elementary English Review,* (January, 1929), pp. 3-6, 23.

Since discovering individual responses was the point of interest, intensive case study technique rather than extensive statistical treatment of data was employed in the development of this study.

Each pupil was furnished with a copy of the *Cathedral Basic Reader,* Book Three, and was instructed to read silently the selection, "In Reindeer Land." Words were pronounced by the examiner when necessary but no explanation of meanings was given. The silent reading was followed by two types of informal tests which were constructed in such a way that they included the same content but

utilized different testing devices for determining comprehension on the same items. Test I consisted of yes-no, multiple choice, and picture choice tests. Test II was a written test consisting of questions on meaning. This required the pupils to give comprehension reactions by writing a reason for the inference made on the items tested, for example: "How do you know that trees grow in Lapland?" The same material was tested a third time by a personal interview in which the child was given an opportunity to demonstrate the understanding he had of the selection read. In this personal interview, by care-

TABLE I
SUMMARY OF RESPONSES

TERM	TEST I			TEST II			PERSONAL INTERVIEW			CONSISTENCY		
	Number of Items	Correct Responses	Incorrect Responses	Number of Items	Correct Responses	Incorrect Responses	Number of Items	Correct Responses	Incorrect Responses	Consistently Correct	Consistently Incorrect	Inconsistent
Lapland, the country of ice and snow	1	30	0	1	24	6	1	27	3	21	0	9
Lapland winters very long	2	35	25	1	12	18	1	13	17	3	1	26
Ivan does not feel the cold	4	87	33	1	23	7	3	77	13	9	1	20
reindeer starve when ground is covered with snow	1	24	6	1	22	8	1	29	1	19	0	11
Lapland too cold for horses or cows or sheep	2	46	14	3	73	17	2	54	6	14	0	16
trees in Lapland	1	22	8	1	21	9	1	30	0	17	0	13
drive a reindeer in Lapland	1	22	8	1	21	9	1	24	6	18	2	10
a pasture in Lapland	2	39	21	1	4	26	1	15	15	3	4	23
harness	.	.	.	1	18	12	3	68	22	11	1	18
rein	.	.	.	1	19	11	2	36	24	9	3	18
why Lapland family moves often	1	25	5	1	23	7	1	29	1	22	1	7
food of the Lapland child	1	23	7	2	48	12	2	51	9	17	1	12
why Laplanders live in tents	1	18	12	1	8	22	1	5	25	5	12	13
kind of dog Ivan has	1	15	15	1	19	11	1	22	8	13	5	12
Laplanders kill reindeer	1	10	20	1	21	9	1	26	4	8	2	20
cut down trees	2	43	17	.	.	.	2	53	7	10	0	20

ful questioning, every effort was made to discover the pupil's actual concepts of the material read. In scoring the results of the tests, the correct response to an item checked by the pupil in Test I was scored as correct. In Test II, a response was accepted as correct if the pupil advanced a reasonable answer in the form of an explanation which proved that he had a correct understanding of the item.

Report of Findings

Various vocabulary difficulties as well as erroneous and vague concepts were disclosed through the written tests and the personal interview. Table I shows the responses given to Test I, Test II, the personal interview, and the consistency of the responses on all tests.

The concept, "a pasture in Lapland," offered the greatest amount of confusion and difficulty. Only thirteen per cent of the pupils were able to give a reasonable interpretation of this item. The majority of the concepts were in terms of the meaning of a pasture in our own country. This is shown in the following responses to the question, "What is a pasture in Lapland like?" "A long narrow field with a fence around it." "A place without a fence where the grass is high." "A field with moss in it and a big fence around it." "They had a sign where the end of the pasture was." "A big field of moss with no fence around it." "I don't know what a pasture in Lapland was." "There was a sea at the end of the pasture." "A big field to keep the reindeer in. It had no fence around it." "A grassy field with a big fence around it." "There was a fence all around the pasture." "A place where the reindeer eat. No fence around it." "His father showed him where the end of the pasture was." "A place where horses and cows and sheep stay."

In another instance, pupils were asked to give the meaning of "rein" and "harness." These terms occurred in the text as follows: "Ivan's father was waiting with a new harness, which he put on Lodo and fastened to the sled. The harness had only one rein instead of the two that are used in driving a horse." That pupils read and use words with apparent facility and yet have an incorrect or but a vague concept of the same is evident from the fact that various responses were given to the above two items, for example: "A harness is something to sit on." "A harness is an iron thing." "A harness is a rein." "A rein is something to show that he is a reindeer." "A rein is a sled." "A rein is the same as horns."

The concept of "long winters in Lapland" caused a good deal of confusion and different interpretations. The text reads as follows: "Lapland winters are very long and for many days the sun does not even show his face." General meanings such as the following were derived: "It is winter all year round because there is always snow." "The sun shows his face only about a week." "They do not have summer otherwise gardens and trees could grow there." "It is winter all year round because the sun does not shine in that country."

In the sentence, "They have strong dogs which helped them to keep all the animals together," several pupils interpreted "strong dogs" as meaning bull dogs or hounds.

Only about one-third of the pupils were able to give acceptable reasons why Laplanders live in tents. The text stated: "The tent he lived in was made out of reindeer skins."

The item "big enough" in the sentence, "Until the child is big enough to drive his reindeer" was interpreted as meaning

anywhere from four to fifteen years, with the greater number centering around seven years.

In addition to the above findings, the results of the tests also led to the conclusion that a correct response on a yes-no or multiple choice test does not necessarily imply an adequate understanding of that item. In this study, 58% of the children indicated by their responses in Test I that "it is not winter all year round in Lapland" while on the same item in Test II only 40% were able to give a reasonable answer for their choice. Sixty-five per cent were able to identify the meaning of "a pasture in Lapland" in the multiple choice test but only 13% could offer a reasonable explanation of the same item. While 60% responded correctly to the item that "the Laplander lives in a tent," only 26% were able to give a reasonable statement why he lives in a tent.

Again, frequently pupils are inconsistent in their responses to the same items in different types of tests. In this study, many pupils who gave a correct response to a given item in Test I, were found to give the opposite in Test II or in the personal interview. On the other hand, pupils who gave an incorrect answer to a given item in Test I were known to respond correctly in Test II or in the personal interview in which they had an opportunity to explain. For example, on the item, "trees in Lapland," 28% of the pupils responded in Test I that there are no trees in Lapland while in the personal interview there was a 100% response that there are trees in Lapland, giving a reasonable answer for the choice.

In determining the consistency of response in this study, no credit was given for consistency on any group of similar test items unless all items of that group were answered consistently, for example:

if a certain item was tested three different times in the battery of tests, the pupil was checked consistent if the answers on all three items were in agreement, either all correct or all incorrect. Of 510 chances to be consistently correct on the written tests and the personal interview, 216 responses were consistently correct, 33 consistently incorrect, and 261 inconsistent. Therefore, on the items common to all the tests, the group showed a consistency of correctness of 43%, a consistency of incorrectness of 6% making a total of 49% of consistency of response or a total of 51% of inconsistency of response.

Summary and Conclusion

An analysis of the pupil responses on the tests seems to justify the following general conclusions:

1. *Various inadequate and incorrect concepts of words, phrases, and sentences were disclosed in this study.* These are an important factor in causing reading comprehension difficulties, for adequacy of concept is fundamental to comprehension. It implies depth of understanding and an intelligent interpretation of symbols. There can be no meaning unless the reader has the ability to interpret the symbols of the printed page. Writers of textbooks may put their ideas into print, but it is difficult to discover just what meaning the pupil derives when he reads the printed material. The concepts he forms are influenced by such factors as vocabulary, intelligence, and personal experience.

2. *The pupils frequently had hazy or erroneous concepts of the material which they used with apparent facility.* This fact indicates that pupils may use words glibly with only a vague notion of their meaning, and in a test may indicate as known that which they actually do not

know. Teachers will find it necessary to supply additional information in order to establish accurate concepts. This may be supplied in the form of concrete materials, pictures, and other types of explanation.

3. *The pupils did not have adequate understanding of all items to which they responded correctly in the yes-no or multiple choice test.* Comprehension of material read implies more than mere word knowledge. Investigations point strongly to the fact that the pupil frequently does not know the meaning of words he is able to use. It is significant, therefore, to test comprehension by questions on meaning also.

4. *The pupils were not always consistent in their reactions to the same items in the different types of tests.* Pupils often accept as satisfactory without further thought, whatever ideas arise quickly. When the same item is repeated in a different type of test, it is found that the response is not in agreement with the response made to the first test. This lack of agreement suggests that ability to respond correctly to a word in one type of situation does not necessarily indicate that understanding is complete.

VOCABULARIES OF TEACHING UNITS
(Continued from page 46)

not always identical. This factor must be remembered in considering frequencies.

For what purposes are these unit lists[1] useful? First they should be an aid to the teacher in checking upon her own knowledge of the unit. Any teacher who wishes to teach a unit should read over the unit vocabulary list and make sure that she knows what all of the words mean, that is, that she knows all the concepts represented by them. If she does not, she can use reference books and make her technical knowledge concerning the unit more complete. Second, these lists may serve to prevent the very inadequate treatment of units which we have mentioned above. The low frequency of important words which one would think would certainly have been

[1] Copies of the list may be secured from the author. Please send a stamped, self-addressed envelope.

in nearly all of the books suggests much oversight on the part of the persons planing or writing up these units. It is not that we wish to crowd material into units for every grade, but that we should have the most important facts of each unit represented. Third, we should like these lists to be the basis of an inquiry by those interested as to how adequately we are now treating the subject matter of these units. Are we really taking up only the more picturesque or peculiar phases of Indian life or Dutch life or of wheat production? This list of concepts was made up from existing treatments of these topics for grade children. Do we not need better treatments than this, which could be represented by much better word lists? These lists are therefore suggestive as the beginning of study rather than the conclusion of it.

Understandings Children Derive From Their Reading*

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This study was undertaken for the purpose of ascertaining the extent to which children understand words and phrases read in literature. For purposes of investigation the writer used the reactions of a certain sixth grade group to several tests over a limited selection of literature. The literary selection used was "Achilles, Famous Leader of the Greeks" by Alfred J. Church.[1] The study was guided by the following questions:

1. Do children understand words and phrases encountered in their reading of literature?

2. If words and phrases found in literature are not understood, what meanings do children derive from such reading?

3. What relationship exists between mental ability, as ascertained by a recognized standardized intelligence test, and ability to comprehend word and phrases found in the reading of literature?

4. What relationship exists between reading comprehension, as judged by a recognized standardized silent reading test, and ability to understand words and phrases used in literature?

5. Is there evidence that children use the context to derive meanings for words and phrases encountered in their reading of literature?

Satisfactory answers to questions three and four of the above list necessitated testing of mental ability and reading ability. The writer chose for this purpose the Kuhlmann-Anderson Tests for Grade Six[2] and the Iowa Silent Reading Tests for Elementary Grades: Form A.[3]

Adequate answers to questions one, two, and five necessitated a comprehensive testing over each difficult word and phrase found in the material chosen as a basis for this study. Five tests were constructed for this purpose; four were parallel tests, built to cover identical items, and one, the picture test of identification, was parallel to the other four over the limited number of items it contained.

It was found necessary for the sake of brevity to shorten the story "Achilles, Famous Leader of the Greeks." The material in its shortened form was an exact copy of certain parts of the text with a few transitional sentences added by the writer.

The story seemed to lend itself to a natural division of three parts which, for convenience, were designated as parts A, B, and C. This material was given to the children in mimeographed form, the purpose being to eliminate any helps given by the text.

The tests used to check the children's understandings of the selection read were (1) immediate recall test, (2) free answer test, (3) multiple choice test, (4) picture test of recognition, and (5) individual interview. These tests were chosen because of their variety of type. Named

in regard to their type they are: (1) written essay type of narration, (2) written question and answer type, (3) informal objective type (based on printed material), (4) informal objective type (based on pictured material), and (5) oral descriptive type.

Seventy-seven children of the sixth grade of the Irving School in Rock Island, Illinois were used in this study. Of this number, twenty-nine were first semester pupils while forty-eight were members of the second semester group.

As an introduction to the study, Part A of "Achilles, Famous Leader of the Greeks," was taught to the group. The teacher's aims in this lesson were as follows:

1. To teach this material so thoroughly that the children could use it as a basis for understanding the material presented in parts B and C which was developed through the pupils' silent reading.

2. To teach pronunciation of all proper nouns.

3. To encourage free discussion and questioning of the material.

4. To answer all questions and volunteer information intended to build up a background of understanding for the unit.

5. To develop interest in the selection so that the children would be led to a happy anticipation of the work that was to follow.

6. To read the selection to the class as a conclusion to the lesson.

The Kuhlmann-Anderson Test results were used to number and rank the seventy-seven children participating in this study, child number one having the highest ranking and child number seventy-seven having the lowest ranking.

A study of pupil responses showed that difficulties were peculiar to individual items throughout the series of tests. Likewise, ease of understanding was found to be identified with certain items throughout the series. According to this study the most difficult items in the selection were "halo" and "stern of his ship," each of which was included in the lower decile of three of the tests given. Items that proved to be least difficult were "weeping," "warriors," and "messenger," each of which was included in the upper decile of the five tests.

The writer recognizes the shortcomings common to the several tests administered. The tests and their medians in percentage of correct responses are:

Immediate recall test..................20%
Free answer test 63%
Picture test of recognition............67%
Multiple choice test 82%
Individual interview 90%

The writer observed that the children had difficulty in expressing their thoughts in writing, which doubtless was one important factor in determining the low scores in the first two tests listed above. As an illustration, the scores of pupil 71 are cited as follows:

	Per Cent Right	Per Cent Wrong	Per Cent Omitted
Immediate recall	05	00	95
Free answer	03	07	90
Multiple choice	38	62	00
Picture test of recognition	34	53	13
Individual interview	70	26	04

As can be noted, pupil 71 accomplished very little in the first two tests, which required a great deal of writing of recalled material. His scores were somewhat better in the next two tests which were of the recognition type and called for very little writing. His highest score was in the individual interview which required no writing. The writer was impressed by the extent of understanding revealed through the interview with pupil 71 as compared with his low scores on former tests.

The median scores on the five unit tests administered averaged 64 per cent of correct responses. Therefore, the answer

to first guiding question is: In the light of the findings of this study, children understood slightly more than three-fifths of the words and phrases encountered in their reading of literature.

The second guiding question is: If words and phrases are not understood, what meanings do children derive from such reading? A study of the findings of these tests revealed interesting implications that are not apparent in a statistical study of the data. The responses indicate pupil understanding varying from apparently adequate understanding to gross misunderstandings.

In several instances the wrong responses seemed more prevalent throughout the tests than did the correct response. For example, twenty-two pupils said that "stern of his ship," meant "the front of the ship;" sixteen pupils answered that it was "deck of the ship." "Breathing space" was said to mean "room to breathe" by twelve children, and eight pupils interpreted the phrase as "room to fight."

Wrong associations seemed to be the cause of many incorrect responses. Illustrations of this type of error are:

    Trumpet—Something to eat (crumpet?) Something
        you talk through (ear trumpet?)
    Slew—A pond (slough?)
    Gods—People who rise on the third day after they
        die
    Cast a spear against the horse and a hollow sound
        came forth—Whipped the horse with his spear
        and it hollered loud

Other errors seemed to have been caused because the child apparently ignored the context. Examples of this type of incorrect responses are:

    Breathing space—Space in the mouth
    Greek hosts—Men who gave parties
    Cast a spear—Threw a handful of pebbles

Another type of wrong response seemed to be the result of apparently meaningless associations. Examples of such are the following:

    Great Achilles—He wore armor
    Angry—To be painful
    Torch—A teacher
    Slain—Had to be servants

Many responses were considered incorrect because the children had expressed their thoughts inadequately. For example:

    Sword—A piece of metal used in war
    Chariot—Small wagon
    Rollers—Round things
    Spy—A man who does something

Numerous gross misunderstandings were apparent, such as:

    Stern of his ship—Steering wheel; sail; rope ladder
    Weeping—Tired out
    Helmet—Metal put over the feet; something like a
        tomahawk

The responses make clear the fact that, although children are grouped together as a class and receive the same instructions, their understandings of words and phrases encountered in their reading of literature vary greatly. In some cases the meaning derived by members of a class for a word or phase are almost as numerous as the class enrollment itself.

In studying the third question, the results obtained through the administration of the Kuhlmann-Anderson Tests form the basis for the discussion of mental abilities of the pupils participating in this study. The total scores on the first four unit tests[4] form the basis for discussing these children's abilities to comprehend words and phrases found in their reading of literature.

According to the intelligence test, the children's I.Q. scores ranged from 28.4 to 131.2, or a difference of 102.7 points. Their total unit test scores for the four tests ranged from 46 to 275, or a difference of 239 points. There is a positive correlation of .802 between mental ability and ability to comprehend words and phrases encountered in the reading of literature, as revealed through the tests given.

    4Scores for test five, the individual interview, were not
    included in this analysis since only eight children, repre-
    senting every decile, participated in this test.

According to Ruch[5] this correlation may be considered as "fairly high."

In studying question four, the scores obtained through the administration of the Iowa Silent Reading Test, Form A were used as a basis for discussion of reading comprehension. The total scores obtained in the first four unit tests formed the basis for discussion of abilities to understand words and phrases used in literature.

Comprehension scores showed a range in reading ability from 7 to 167, or a difference of 160 points. Transposed into grade equivalents these scores represent a range from 2-10 ability to 10-5 ability or a difference of seven and one-half grades. The correlation between these results and the results of the unit test scores was found to be a positive .866 which, according to Ruch, can be considered fairly high.

Illustrations of responses showing that children do use the context in deriving meanings are:

> Youths and maidens—The younger generation
> Crafty Ulysses—He was good in hand craft and woodwork so he was chosen to build the horse.
> Stern of the ship—Front end where he could see best
> Dogs of Troy—Trojans—the Greeks hated them so much that they called them "dogs"

Illustrations of responses that seem to indicate that the pupils did not use the context to derive meanings are:

> Deep trouble—Slight trouble
> Greek hosts swept through the city—Greek men who gave parties and feasts
> Silver studded sword—Silver uniform
> Chariot—House

The writer observed that there was a somewhat greater tendency to gain meaning from the context among children of the higher levels of intelligence. There were instances of glaring disregard for contextual meaning among the more intelligent children, however. For instance, pupil 7 thought that "cast a spear" meant to throw a handful of pebbles, and pupil

[5] G. M. Ruch, *The Objective or the New Type Examination*, Scott, Foresman, Chicago, Illinois, 1929, p. 434.

1 said that the rollers put under the feet of the horse were "four little wheels about the size of the ones under your desk."

The individual interview brought out the extent to which children use their background of experience in gaining meanings for particular words and phrases. Pupil 71 was sure that "mounted his chariot" meant to saddle and ride a horse because he had "mounted a horse once." Pupil 31 knew that "rouse thee" meant to get up because his mother had told his brother "to rouse himself this morning when she meant for him to get up."

The writer was impressed with evidences that children are very sure in their own minds that they know what words and phrases mean. They are quite as positive when their understandings are wrong as when they are right.

Meanings seemed to be uniformly more numerous and correct among children who read or conversed a great deal, and among children who were fond of writing stories and poems and in participating in plays. Illustrations of this observation are found in the total unit scores of pupils 38 and 31. While these pupils are but average in intelligence (I.Q. of 100 and 103 respectively) their total unit test scores ranked first and fourth respectively for the entire group. Pupil 38 was interested in story writing and did quite good original work in that field. Pupil 31 did a great deal of recreational reading of a high level of difficulty, and heard and participated in much good conversation.

In answer to the final question, the results seem to indicate that children do use the context to derive meanings for words and phrases encountered in their reading of literature, and that their proficiency in deriving correct meanings is influenced to a high degree by their mental ability and their environment.

An analysis of the findings resulting from this study seem to indicate the following conclusions:

1. Children show great variation in ability to understand words and phrases encountered in their reading of literature in so far as such abilitiies were disclosed through this study.

2. Although grouped together by grades, children in the same grade and receiving the same instruction derive many meanings and shades of meanings from their reading of a selection of literature.

3. Reading abilities within a sixth grade may show a range from primary ability to high school ability.

4. The recall type of test seems to cause more difficulty than does the recognition type of test as judged by the pupil reaction in this investigation.

5. Certain terms cause more difficulty than do other terms and these difficulties have a tendency to persist from test to test.

6. There is a fairly high correlation (.866) between reading ability and ability to comprehend literature read according to the testing done in this study.

7. There is a fairly high correlation (.802) between mental ability and ability to comprehend literature read according to the testing done in this study.

8. The personal interview seems to bring to light pupil understandings which are not revealed through the other types of tests administered.

9. Children appear to derive meaning from the context although such derivations are not always correct. Children seem to be unconscious of having thus gained wrong meaning.

10. Certain literary selections, although they are included in readers of a certain grade, are too difficult for pupils of that grade fully to comprehend. Concepts, which in themselves are easily understood, may have their meanings obscured by odd or unfamiliar wording or phrasing.

SPELLING ERRORS IN SOCIAL SCIENCE

large proportion seem to be due to carelessness, mispronunciation and unfamiliarity. Many of the errors may have occurred because the pupil's major attention was focused on content and not on form.

In general, pupils who wrote a great deal were those who did not experience much spelling difficulty, and conversely, those who wrote little found spelling a stumbling block.

Since such a high proportion of the 95 words missed by three or more pupils (40%) had been taught, and since pupils worked with their books open before them, it seems that our biggest problem is to develop in these pupils a desire to spell correctly and a pride in their spelling, (spelling conscience) and give them some training and practice in proofreading, trying to develop a spelling consciousness.

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The Comics and Children's Vocabularies*

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EVERY NEWSPAPER in New York City, with the exception of the *New York Times*, publishes comic strips daily, and augments the supply once a week by a supplement of from four to twenty pages. The insatiable desire of children for this form of amusement has caused publishers to add nineteen monthly magazine that continue the adventures of the characters found in the "funnies."

The effect of these strips upon the written English of children between the ages of eight and thirteen was shown recently when eight hundred children in grades three to six inclusive in the public schools of New York Ciy were asked to draw a funny picture.

Schematic drawings similar to those employed by cartoonists were made by the children. The style was decidedly primitive, and ideas that could not be expressed by drawings alone were shown by the approved method of inserting balloons in the mouths of the figures drawn.

Coincidence is insufficient to explain the widespread use of fabricated words and onomatopoeia. The English of the comic cartoons was carried over into the language of the children too often to be attributed to chance, as is shown in the following list of sounds which floated from the lips of Popeye, Donald Duck, Dick Tracy, and others of their kind, in the children's drawings:

*Abstracted from the author's dissertation, "Stimuli which Cause Laughter," prepared at New York University, 1939.

ONOMATOPOEIC WORDS

arf	G-r-r-r-r	pop pop
ba	goo ga	put put
bam	huh	plop
bang	hatcha-cha-cha	r-r-r-r
beep	heck-heck	smack
bep bep	he he	soko
bing	hi hi	tra la
boo hoo	hi ya	ta la
bong	hey	tsk
boom	ho ho	toot toot
bom bom	honk	tweet tweet
blah	he-al-p	ve va
bung	ha	wa
b-z-z-z	k k k k	woo
by by	kr kr kr	woof
bif-bam-boom	mew mew	we we
chic-chic	mo mo	yap
chuck-chuck	meow-wow	yip
chug-chug	oink	ye ow
cu cu	oof	yeh
foo	oola	yo yo
fooey	ouchee	yow
ga gag glug	ow	yurp
glug glug	pep pep	zowie
goo	pip pip	z z z z

Explanations of the drawings were written below to clarify their meaning. The graphic vocabulary of the pupils was amusing in itself. Feet were "like apples, blackjacks, and rats." Hair was "like a squirrel's tail, floozey," made of "needles" and "spinach," and one child aptly described it as "laughing hair." Noses were "quirly," "pointy," "nunormous" (enormous), and "like a bee," or merely a "big snozzle." Eyes were "curly," "rolly," and "bigger than Eddie Cantor's." Ears were "filthy," "like eggs," "like donkey ears," "cauliflower," and "bigger than Clark Gable's." Teeth were "bowlegged" and "jack-o-lantern." Lashes were "like mud," while faces were "like potatoes" or simply a "sour puss." The figures were "shrimps," "skinny pickles," "Miss

Snoozlepuss," and were "as graceful as an elephant" or "balmy" or "nuts."

They spoke in expletives such as "Well starch my shorts!" "Tough guy, eh?" "By cracky." They called "Hi toots" and "Come up and see me sometime," or yelled "Halp," if not "Sez you." If one sang, she was as likely to sing "Solo mio, croak, croak" as "tra-la-la."

The effect of the antics of the funny paper characters upon the behavior of children is as yet a mere conjecture, but there can be no doubt that the manipulated spelling and fantastic language used in the comic strips influences their written English.

It is not the purpose of this investigator to pass judgment upon the merits or evils of the comic strips, but to present evidence that children are familiar with them and regard them as humorous.

Evidence that the children are reading these magazines was found by means of visits to the candy stores in the immediate vicinity of the schools at the lunch hour, observing the children and querying the salesman. In each of ten stores, from five to thirteen magazines of the type described were on display and are purchased in large numbers, especially on the first day the new issue appears.

The dealers said that they could not keep enough in stock.

Observation in the class room revealed that the tabloid funnies lurked behind the geographies, or were brought out openly in some "library periods" where the teacher was not too strict.

The influence of this type of material upon the vocabulary of children is potent. They consider the faulty English humorous, regret that profanity and strong language are tabooed, and make use of stars, exclamation points and dashes to express their feelings in the same way that the professional artists circumvent censors.

Sporadic attempts by organizations to improve the comic strips have met with failure, and there is little indication that the disapproval of educators and many parents has had much effect upon the tastes of the children for this form of reading.

A psychologist says,[1] "Perceiving the function of laughter provoking agencies, we should be slow to condemn even the broadest and coarsest of humor, for this, furnishing an indirect outlet for suppressed instinct, may be more beneficial than we know. Lacking this relief, the impulses might seek satisfaction in forms much less innocent."

[1] S. Bliss, "The Origin of Laughter." *American Journal of Psychology.* 1915:26. P. 246.

A Study of the Vocabularies of First Grade Basal Readers

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THIS IS A PRELIMINARY report of one section of one of the major studies conducted by the Reading Clinic staff at The Pennsylvania State College. Specifically, this report deals with the vocabulary findings on the pre-primers, the primers, and the first readers of thirteen recently published basal reading series. Included in this report are the purposes of the study, the limitations, the procedure, and the results of the analysis. A final report of all the findings, including a classification of all words by book and by grade, is being prepared.

Certain research and reading clinic activities have been limited by the lack of specific information on the mechanics and the meaning situations at the various reading levels. For example, in the preparation of experimental material for the detecting of specific difficulties and for the appraisal of achievement levels, there were few, if any, cumulative data on such factors as vocabulary, sentence length, sentence structure, and concept difficulties of basal reading material at each level. The establishment of specifications, in terms of these data, for the preparation of reading test cards for the Ophthalmograph was a necessary first step if performance in typical reading situations was to be studied. Furthermore, it is found frequently that a case may be conditioned against a certain series of books and that another series with a high vocabulary overlap might be desirable for recommended systematic instruction. This problem of keying the vocabulary to the needs of the subject also arose in the systematic use of the Metronoscope. In view of these and other needs, this study of the mechanical aspects of the vocabulary was initiated in order to secure needed data on word forms and to serve as a basis for more penetrating investigations of the content.

Purposes of the Study

The primary purpose of this study was to establish a basic list of words commonly used at the various levels of recently published basal reading materials. Certain secondary purposes serving to implement the primary purpose are as follows: (1) To determine the total number of pages of reading material at each level, (2) to determine the total number of different words at each level, (3) to determine the total number of running words at each level, (4) to determine the number of words a page at each level, (5) to determine the number of words common to all basal readers at each level, (6) to determine the number of words common to a given number of readers at each level, (7) to study the nature of the words common to a given number of books at each level, (8) to study vocabulary control as evidenced by word repetition, or frequency of usage, (9) to determine the consistency with which words introduced at one level are used at succeeding levels in the same series, and (10) to establish procedures for the tabulation of words which are both accurate and rapid.

Limitations of the Study

The limitations of this study are summarized as follows: (1) Only thirteen series of the most recent basal readers were used. (2) All books used have been published since 1932. Two series were published in 1932; two, 1934; four, 1935; and five, 1936. One series of readers with copyright dates of 1927 and 1930 was revised in 1936, but this revision apparently did not involve the vocabulary. This also was apparently true for one series copyrighted in 1930 and 1931 and revised in 1936 and 1937. A series was not included when there was reasonable assurance of a published revision within one year. (3) No reading readiness or complementary books were used; e.g. second pre-primers and pre-second grade books. (4) No more than one series of books from each publisher was used. (5) Only the books at the first grade level are included in this first report. (6) Accuracy is limited by the reliability of the methods of checking the work as it progressed. Inaccurate work was retabulated until correct. (7) Words were tabulated in terms of mechanics of word forms. (8) Arbitrary decisions were made concerning words to be excluded from the tabulation. (9) The 1936 edition of *Webster's New International Dictionary* was used as the criterion for spelling. This may have contributed to inconsistencies between initial and final tabulations, especially in regard to compounds. (10) *Thorndike's Teacher's Word Book of 20,000 Words* was used as a criterion to identify key words in situations where any difficult questions arose.

The Materials Analyzed

The data were secured from the first grade books of the following series for the study:

Baker, Clara Belle and Reed, Mary Maud. *The Curriculum Readers.* The Bobbs-Merrill Company, 1934.

Buckingham, B. R. *The Children's Bookshelf.* Ginn and Company, 1934.

Dopp, Katherine E., Pitts, May, and Garrison, S. C. *Happy Road to Reading.* Rand McNally and Company, 1935.

Elson, William H. and Gray, William S. *Curriculum Foundation Series.* Scott, Foresman and Company, 1936.

English, Mildred, and Alexander, Thomas. *Happy Hour Readers.* Johnson Publishing Company, 1935.

Grady, William E., Klapper, Paul, and Gifford, Jane C. *Childhood Readers.* Charles Scribner's Sons, 1932.

Hahn, Julia Letheld. *The Child Development Readers.* Houghton Mifflin Company, 1935.

Leavell, Ullin W., Breckinridge, Elizabeth G., Browning, Mary, and Follis, Hattie. *The Friendly Hour.* American Book Company, 1936.

Lewis, William Dodge and Gehres, Ethel Maltby. *The New Silent Readers.* John C. Winston Company, 1936.

O'Donnell, Mabel, and Carey, Alice. *Alice and Jerry Readers.* Row, Peterson and Company, 1936.

Smith, Nila Banton. *Unit-Activities Readers.* Silver, Burdett and Company, 1935.

Stone, Clarence R. *Webster Readers.* Webster Publishing Company, 1932

Storm, Grace E. *Guidance in Reading Series.* Lyons and Carnahan Company, 1936.

Procedure

In brief, the procedure was: (1) Determination of the limitations of the study; (2) development of rules and procedures for the initial tabulations by clerks; (3) development of procedures for insuring accuracy of tabulations; (4) establishment of rules for final classification of words in terms of both spread of usage (or occurrence in different books) and frequency of usage; and (5) preparation of cumulative word lists for each reading level.

Rules for Final Classification of Words

In general, all words to be read by the pupils were tabulated. Entries were made for words from the following situations: Titles of story units and titles within the units, including both print and artists' lettering; all story content; and comprehension exercises. Entries were not made for words found in the following situations: covers; inside fly leaves; preface or introduction; table of contents; direc-

tions or notes to teachers; concluding word lists; and words within illustrations (either cursive or manuscript) with exceptions of where titles were included. Numbers of pages were not tabulated.

Previous investigators have reported their findings in terms of primary, regular, or basic word forms. The findings from this study are being reported in two ways: First, a basic list of words at each of the five levels (from pre-primer through third grade readers); second, a basic cumulative list for the primary grades. The second list shows not only the frequency and spread for each key word but also the frequency and spread of the primary form and the variants. In short, the final report includes both lists of words found at each level and a detailed cumulative inventory or catalogue of all word forms. At each level two supplementary lists of capitalized words are appended: one of words used as proper nouns only; the other of words used also in the common form and included in the tabulations for the basic list. No separate tabulations were made of capitalized first words in a sentence.

The following rules were used for the final classification of all key words in the cumulative inventory:

A. NOUNS

1. If the singular form of the noun was not found, then the plural was used as the key word.

2. The key word includes plural nouns formed by adding *s* and is indicated by the singular form. Examples: pear (pears); bed (beds); chair (chairs)

3. The key word includes the plural of nouns formed by adding *es* and is indicated by the singular form. Examples:

branch (branches;) dish (dishes)

4. The key word includes the plural of nouns formed by changing *y* to *ies* and is indicated by the singular form. Examples: penny (pennies)

5. The key word includes the singular and plural possessives of nouns and is indicated by the singular form. Examples: hen (hen's); boy (boy's) (boys')

6. Separate entries were made for the names of specific characters (always proper nouns). These are not included in the basic list; instead they are presented in a supplementary list. Examples: Dick, Jane, Bobby.[1]

7. The key word includes capitalized words which may be used as common nouns or as modifiers. Examples: Frisky Squirrel, Dark Pony, Daddy.[2]

8. Separate entries (key words) in basic list are made for place names, holidays, and names of the months and days of the week. Examples: Africa, Christmas, Easter, December.

B. VERBS

9. For verbs, the key word is the present infinitive form. Examples: walk (walks) (walked)

10. The key word includes verb forms ending in *s, d, ed* (including changes of *y* to *ies* and

[1] Such words as *Tuck, Fluffy*, and *Frisky* were used in a book at one level as a capitalized word and in a succeeding book as a common form. Names, such as *Father Fred*, were entered in a supplementary list and the word *father* was included in the basic list.

[2] For names, such as *Bobby Squirrel, Bobby* would be entered under Rule 6 and *squirrel* under Rule 7. When a word, such as *Jumpy*, appeared as the name of a specific character and might have been used in the common form but such usage was not found, it was tabulated as a proper noun only and entered in the supplementary list.

ied and doubling of final consonant) and *ing*. Examples: call (calls) (called) (calling); practice (practiced); hurry (hurried); clap (clapped)

11. The key word includes past participles formed by adding *n*. Examples: take (taken); broke (broken)

12. Irregular inflectional forms are kept as separate entries, or key words. Examples: go, gone, goes; do, did, done; come, came; hear, heard

C. ADVERBS

13. The key word includes adverbs formed by adding *ly*. (Changes of *y* to *ily*.) Examples: love (lovely); real (really); busy (busily)

D. ADJECTIVES

14. The key word includes comparatives and superlatives formed by adding *er, est, r,* and *st* and by changes of *y* to *ier* and *iest*. Examples: dark (darker) (darkest); blue (bluer) (bluest); happy (happier) (happiest)[3]

15. The key word includes adjectives formed by adding *n* to proper nouns. Example: California (Californian)

E. COMPOUND WORDS[4]

16. Hyphenated words are entered as key words. Each component part is entered under the appropriate key word and indicated as such. Duplication of count was avoided by excluding the component part in the frequency for the key word. Example: good-by.

17. Solid compound words are entered as key words. Examples: birthday, grandmother, everything.

18. Separate entries are not made for two-word compounds. Examples: ice cream, mail man, all right, gum drop.

F. CONTRACTIONS

19. Contractions are listed as separate key words. Examples: can't, don't.

G. ABBREVIATIONS

20. Abbreviations are listed as separate key words. Examples: Mr.; A. M.; lbs.

H. HOMOGRAPHS

21. Separate entries were made for each homograph without consideration of meaning. Examples: saw, bear, fair.

I. MISCELLANEOUS

22. Separate entries were made for words denoting animal sounds. Examples: meow, bowwow, deadle.

Results of Study

The chief outcome of this study is the cumulative vocabulary by levels, which is being published. Certain other data taken from the first tabulation and pertinent to the reading program follow:

1. A total of 210,283 running words was tabulated from the 39 first grade books: pre-primers, 12,155; primers, 69,969; and first readers, 128,159.

2. The average number of running words in the pre-primers was 935, with a range from 497 to 1,549.

3. The average number of running words in the primer was 5,382, with a range from 3,250 to 9,342.

4. The average number of running

[3]Separate entries were made for such words as *fun* and *funny*.

[4]In some instances the spelling used in the reader differed consistently from that of the dictionary criterion; e.g. *sandbox (sand-box); bowwow (bow-wow); beehive (bee-hive).* These words were not hyphenated in the dictionary.

words in the first readers was 9,858, with a range from 7,803 to 20,631.

5. The average number of running words in the first grade series was 16,176 with a range from 8,499 to 31,150.

6. Three key words (*a, the,* and *mother*) were common to 13 pre-primers.

7. Thirty-four key words were common to 13 primers: three of these were also common to the pre-primers.

8. One hundred and sixteen key words were common to 13 first readers.

9. One abbreviation (Mr.) was used in the pre-primers.

10. Seven additional abbreviations (D.C., lb., lbs., Mrs., P. M., qt., St.) were used in the primers.

11. One additional abbreviation (A. M.) was used in the first readers.

12. A study of the key words and variants revealed wide variations in usage. For example, at the pre-primer level, the key word *father* had a spread of 9 and a frequency of 171. However, the word *father* had only a spread of 4 and a frequency of 9, the capitalized form (*Father*) accounting for a spread of 9 and a frequency of 154. Another type of example: the key word *play* had a spread of 8 and a frequency of 157. Included in this frequency was *playing* with a spread of 1 and a frequency of 12 and *plays* with a spread of 2 and a frequency of 10.

Conclusions

1. The tabulation of all forms in terms of key words only at the primary level does not provide sufficient data on vocabulary.

2. Data on both frequency and spread of word usage appear to be necessary for the establishment of core vocabularies for the purposes of this study.

3. Basal readers at any one level vary widely in the number of different words and the number of running words used.

4. The wide disparity in the vocabularies of books used at any one grade level probably creates significant pedagogical problems in directing the reading activities of a substantial number of the school population.

5. This study provides a basic reading vocabulary to check against spelling vocabularies.

6. The form for reporting this study provides a quick means of checking vocabulary overlap among books at a given level.

7. If this type of vocabulary study is significant, then this study provides a basis for the preparation of test materials.

8. One source of data for predicting the readability of selections is afforded.

9. This is a reliable source of data for analysis of mechanics of word forms.

10. A sampling check of word forms in context reveals a number of parts of speech and of meaning tabulated under a given key word. For example, *cross* and *crossing*.

11. Not all word forms in one book of a given series were used in succeeding books.

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Parents' Appraisals of Personality and Other Measures

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(Concluded)

Tables II and III show the computed correlations of the parents' appraisals with various other of the 106 measures taken of the pupils. The tables are by certain groupings of these other measures. Table II gives twenty-four correlations of the parents' appraisals with several reading measures. The fourteen reading tests used in the original study gave an average of .73 for the possible ninety-one intercorrelations, which is quite high reliability. There are no high correlations in Table II. The average is —.04. The tendency to negative figures can be interpreted only as of very doubtful significance. It is significant, however, that no relationships of any consequence appeared at all. Apparently, for the twenty-five children studied, personality development, as measured by these devices, had no important relationship with learning to read in the kind of school experiences these children had.

Table III shows thirty-three correlations of the personality measures with abilities with letters. Absence of significant relationships seems evident in these correlations, as was the case with reading. The average for the table is —.03. The three highest correlations (.42 for personal traits and recognizing capital letters; .35 for personal traits and recognizing small

TABLE II
CORRELATIONS OF PARENTS' APPRAISALS OF CHILDREN WITH TESTS OF READING ABILITY

	Undersirable Behavior	Personal Traits	Personality Rating	Developmental Index	Nervousness Index	Average
*G. P. R. T., Type 1, Word Recognition, Nov.	—.16	—.17	—.12	...	...	—.15
Hildreth, First Grade Reading Analysis Test, Total, March	—.04	.28	.15	—.07	...	.08
Teacher's Ranking in Reading, May ability	—.01	.15	.03	—.25	—.14	—.044
G. P. R. T., Type 1, Word Recognition, May	—.20	.11	—.01	—.14	...	—.06
G. P. R. T. Type 2, Sentence Reading, May	—.19	.18	—.13	—.15	...	—.07
G. P. R. T., Type 3, Paragraph Reading, May	—.04	.20	.16	—.31	...	—.00
Averages	—.107	.125	.013	—.184	—.14	

*Gates Primary Reading Tests

FREQUENCY TABLE OF CORRELATIONS

Intervals	F	Interval	F
.20	2	—.20	2
.10	5	—.30	1
.00	1		
—.00	5		24
—.10	8		

Ave. = —.04 S. D. = ± .163

letters; and .37 for personal traits and writing letters) are exceptions to the general absence of relationships. The average for the table is —.03. Only six of the thirty-three correlations, however, are positive. In fact the distribution seems to be bimodal. The positive mode is about .30; the negative about —.10. The general absence of relationships between personality and abilities with letters may be due first, to the efforts most parents make to have their children learn letters, and second, to the possibility that learning letters is a natural tendency of early childhood maturation. May the three fairly high correlations cited above indicate that parents considered the personal traits of their first grade children desirable, in part, depending upon how much progress they had made in learning to recognize and write letters?

Forty-two correlations with mental abilities[2] tend to be very low and slightly toward the negative relationship. The average is —.01. The following, however, are fairly high.

These relationships seem contradictory. The first six indicate that lower mental ability would go with better personal natures. The last two indicate just the opposite. This contradiction may be due to the unreliability of the measures and appraisals, or it may mean, at least in part, that personality development in young children is not closely related to the nature or to the amount of general mental

TABLE III
CORRELATIONS OF PARENTS' APPRAISALS OF CHILDREN WITH
TESTS OF ABILITIES WITH LETTERS

	Undesirable Behavior	Personal Traits	Personality Rating	Developmental Index	Nervousness Index	Average
*G. R. D. T. IX, Total 1-7, Phonic Combinations and 9, Giving letter sounds, Dec.	—.12	—.04	—.11	—.04	...	—.08
*G. R. D. T. X, 1, Blend Sounds, Dec.	...	—.03	...	...	...	—.03
*G. R. D. T. X, 2, Recognition Sounded Letters, Dec.	—.14	...	.06	.17	...	.03
*G. R. D. T. XIII, 1-2, Write Words, Dec.	—.10	—.00	.01	—.08	...	—.043
*G. R. D. T. IX, 10, Recognition Capital Letters, Dec.	—.17	.42	—.13	—.27	...	—.04
*G. R. D. T. IX, 11, Recognition Small Letters, Dec.	—.09	.35	—.15	—.31	...	—.05
*G. R. D. T. IX, Total 1-7, Phonic Combinations, and 9, Giving letter sounds, May	—.23	.01	—.13	—.01	...	—.09
*G. R. D. T. X, 2, Recognition Sounded Letters, May	—.04	—.01	—.13	—.04	...	—.06
*G. R. D. T. XIII, 3, Adapted, Writing Capital and Small Letters and Digits, May	.24	.37	.20	—.14	—.09	.12
	—.08	.134	—.048	—.09	—.09	

*Gates Reading Diagnosis Tests

FREQUENCY TABLE OF CORRELATIONS

Interval	F	Interval	F
.40	1	—.00	11
.30	2	—.10	10
.20	2	—.20	2
.10	1	—.30	1
.00	3		33

Ave. = —.03   S. D. = ±.181

	Rho	P. E. rho
Ship test and personal traits	—.46	± .1043
Ship and personality rating	—.43	± .1082
Information and personal traits	—.42	± .1093
Vocabulary and undesirable traits	—.38	± .1139
Ship and undesirable traits	—.34	± .1181
I. Q. and undesirable traits	—.31	± .1209
Seguin and undesirable traits	.36	± .1160
Information and personality rating	.35	± .1150

[2]The following tests were used: Van Wagenan Reading Readiness Test, Information; Hildreth, Griffith, Orleans Metropolitan Readiness Test for Kindergarten and Grade I, Information: Vocabulary, Composite; Seguin Form Board, Time; Mare and Foal, Time, Healy-Fernald; Ship Test, Pintner-Patterson; Healy Picture Completion Test, II; Mental Age, Stanford Revision of the Binet-Simon Test; Intelligence Quotient, Stanford Revision of the Binet-Simon Test; Gates Reading Diagnosis Tests; XV, 1-4, Memory Span, Total.

abilities. The large variability shown in this table —S. D. ±.236—may indicate the same thing. This interpretation of the development of personality is commonly held by students of child life today.

Of forty-three correlations of the personality measures with a variety of psychophysical measures, ten are fairly high:

	Rho		P. E. rho
Personality rating and number of activities of child	.49	±	.1003
(Few) undesirable traits and grip	.45	±	.1056
Personal traits and perservation	.40	±	.1116
Personality rating and tapping	.38	±	.1139
Developmental Index and tapping	.38	±	.1139
(Few) undesirable traits and weight	.34	±	.1181
Personal traits and motor co-ordination	.32	±	.1199
Personal traits and weight	.31	±	.1209
Personal traits and grip	.30	±	.1217
Developmental index and activities of child	.30	±	.1217

Several of these suggest relationships of possible importance. First, the number of childen's activities seems to have a conspicuous relationship with good personality rating as indicated by the correlation .49. Possibly the personality is causal of activities, but experience has long indicated that child activity is the outstanding medium for forming those habits, attitudes, likes and dislikes of which elders approve in child behavior. While the number of activities engaged in by the child may not be an exact measure of the amount or quality of activity, it seems reasonable to suppose that, on the average, it may be a fair measure.

Second, physical development, as shown by such measures as tapping, weight, co-ordination and grip, seems possibly to be related to desirable personality development. If this be a real relationship, might it not be suggestive of the value of vigorous bodily and muscular activities, as compared with activities which are less physical in the development of good personality in children? Significance of bodily activity and motor skill in developing language is recognized

by competent authorities in the field of speech.

Third, a fairly high correlation, .40, for personal traits and perseveration attracts attention. The perseveration test used in the study was Parts II and III of the Attention Test by Elkins and Maller. The tests required the writing of capital B's and small b's in Part II, and short perpendicular and short horizontal lines in Part III, under such conditions as to give what were presumed to be measures of lag or "perseveration." Neither the validity nor the reliability of the test is known statistically. It was given individually, however, by a person skillful in handling young children, and after preliminary practice that indicated that the children understood the requirements of the test and were ready to take it. The seventy-nine computed correlations of perseveration with the other measures of the study were below .44. This coefficient of .40 places the relationship between perseveration and personal traits up near the top of the entire seventy-nine. It would be well worth investigating what this considerable degree of relationships may mean. The correlations of perseveration with Chronological Age, Intelligence Quotient, and Mental Age were about .08, .03, and —.02, respectively, very similar to coefficients found in other studies of relationships between scores on this test and Chronological Age, Intelligence Quotient, and Mental Age.

The average of all the forty-three correlations — 4.1 — while not high, is higher than those for reading, letters, mental abilities, and other personality measures. The S. D.,± 18.53, is large, larger than the S. D.'s for reading, and about the same as that for letters, but smaller than that for mental abilities.

Fourteen correlations were made between the personality measures and re-

versals, visual perception; errors (nine tests on many subjects); number of children's books at home; number of magazines and books in home. Only one correlation is even fairly high: .33, P. E. ±1190, for personality traits and number of magazines and newspapers in the home. It seems doubtful that any significant relationship is shown by this figure. The average for the table, 0.00, and the large S. D., ± .151, indicates no important relationships between the personality measures and tendencies to make reversals in reading, errors in tests, and number of children's books, magazines and newspapers in the home.

III. Summary and conclusions.

Correlation of five subjective appraisals of Grade I children by their parents, with a large variety of other measures of the same children, gave an average of —.04 for reading tests (which had an average inter-correlation of .73); —.03 for tests

of letter abilities; —.01 for tests of mental ability; 14.1 for psycho-physical measures; and 0.00 for four other measures.

While the appraisals and measures were of uncertain reliability and validity —in many cases they were undoubtedly quite low in these respects—yet because of the consistent tendency to very low correlations and because of the broad extent of the analysis made, it seems warranted to suppose that, in general, lack of integration of personality traits and special abilities is characteristic of Grade I children.   In connection with learning to read this would indicate that no definite personality traits and no early temporary organization of personality, at least within rather wide limits are certain to affect progress either favorably or unfavorably. In other words, teachers may, by appropriate methods, turn a considerable variety of personality traits to good account in teaching children to read.

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Editorial

Words to Grow On

THE RELATIONSHIP between words and thoughts has been noted by many writers. "Thoughts are almost as dependent on words as words on thoughts," says George Herbert Palmer. And Alice Meynell deplores "inadequacy and imprecision in speech" because "right language enlarges the soul as no other power or influence may do."

To limit right and civil expression, then, would not only be to set bounds on thought, but to dwarf all non-physical and spiritual growth.

One who listens to the common speech is made aware of the fact that we in America fail to appreciate our English language. The "inadequacy and imprecision" to which Mrs. Meynell refers are everywhere painfully apparent. Everyone has a fund of instances. I recall an amiable young man who undertook to explain a manufacturing process to me. "They take a lump of stuff and put it on a dingus, and then—oh I don't know—they kind of make it go 'round and hold a hikky on it—and then—oh I don't know—but it's awfully interesting." Not to mystify readers too much, the youth was describing the making of pottery.

This boy, and his millions of fellow-offenders, are citizens of an English-speaking country. Awaiting their pleasure is one of the richest, most subtle, varied, and beautiful languages man has devised. It is a language that has hospitably welcomed words from many other tongues; that has developed one of the largest bodies of great literature in any speech. A beautiful and noble instrument, it can express playfulness, hilarity, nonsense; it can be explicit and precise; it can rise to sublimity and grandeur. And yet we are content to express ourselves in sub-human grunts and shoddy clichés!

If the two authors quoted above are right—that thoughts and character do not mature without words—then we are fortunate to be heirs of so rich a language, and the words in our English tongue assume great importance.

Authors in this number of THE REVIEW have pointed out that children know more words than they can spell; they know more words than they can even understand. This is a hopeful beginning, for words, held in the memory, will accumulate significance and meaning. The fact that children glibly use words they misunderstand indicates that words are available — right or wrong; that they have a hunting-ground. Maturing minds and personalities will push back frontiers of understanding, and they will eventually become aware that a harness is not "something to sit on" as the delightful youngster reported by Sister M. Benigna Herbers stated. Their thinking will become more accurate because they have the words. The young man who wished to tell about pottery making would not only have been able to describe it more accurately had he possessed the vocabulary, but he would also have understood the process better by reason of that possession.

We are inclined to make the mistake of believing that there are but two definite states—knowing and not knowing. We, as teachers, need to keep in mind, in connection with vocabulary especially,

Reviews and Abstracts

Poetry Preferences in the Junior High School.
By Lucy Kangley. Bureau of Publications, Teachers
College, Columbia University, New York City,
1938. 153 pages.

This is the report of an experiment carried on by
Dr. Kangley in Bellingham, Washington, to determine
the poetry preferences of eighth grade pupils. More
than three hundred and fifty pupils participated. The
length of the experiment was seven and a half weeks.

Six "appeals" were listed, four relating to content and
two to technical and esthetic qualities; and each "ap-
peal" was divided into two parts, primarily on the
bases of simplicity and intricacy. Ten groups of poems
(not well-known) illustrating these twelve categories
were read aloud to the pupils and also read by them.
They then recorded their preferences. Their favorite
poems were submitted again to test preferences among
preferences. Other procedures employed were: interviews,
discussions, theme-writing, and study (for comparsion)
of prose preferences. At the close of the experiment
proper, five competent adult judges analyzed the twenty
poems most liked and the twenty least liked. The data
resulting were treated statistically and descriptively;
the findings drawn and summarized, and recommenda-
tions made. Separate studies were made of: (1) all the
children; (2) the boys and the girls; (3) the pupils
of high and of low reading comprehension ability.

The experiment was ingeniously made and skilfully
conducted, with all the details of the experimentation
scrupulously guarded. The statistical procedures were
intricate, numerous, and sound.

The findings of most significance relate not to the
preferences among the 120 poems themselves but among
the types of poems. The poems liked best belong to
the categories "Obvious Sound Effect," "Commonplace
Subject Matter," and "Obvious Humor." The poems
liked least fall into "Straight Didactic," "Complex
Imagery," and "Nature without a Center of Interest."
Sex differences, while important, are "largely differences
in extent rather than in direction." Children on the
higher reading-comprehension level tend, more than the
others, to like less obvious and direct effects. The
qualites found by the five adult experts, with which
the children agree fairly well, are: a clear rhyme
scheme, simplicity, dialogue, obvious sound effect, story
element, humor, and relation to common experience.

Among Dr. Kangley's conclusions are these: "If ap-
preciation is desired, material must be markedly less
difficult than much poetry now being used." "The
purpose of developing an appreciation of the highest

poetry can often best be served by using poetry of a
lower level." She urges oral interpretation and the ex-
perimental approach on the part of the teacher, and
she suggests that perhaps emotional maturity is more
significant in appreciation of poetry than is intellectual
development.

—*WALTER BARNES*
New York University.

Twelve Ways to Build a Vocabulary. By Archibald
Hart. Foreword by Johnson O'Connor. E. P. Dut-
tion, 1939. Educational edition, $1.00.

This book on vocabulary building is a notable con-
tribution to the textbooks in its field because of the
highly selective character of the material presented.
There are only 128 pages in the little volume, but
these cover the elements of word growth and develop-
ment.

Three chapters deal with symptomatic phases of the
problem—"Weary Words," "The Poisoned Well," and
"Malapropisms." Chapters on synonyms, antonyms, and
definitions have to do with improved word usage; one
chaper is devoted to "Helpful Books," and the remain-
ing five chapters concern the nature of the language—
"Word Derivations, Latin," "Word Derivations, Dou-
blets," "Word Derivations, Greek," "Slang and Idiom,"
and "Prefixes."

There is a notable lack of the clutter characteristic
of many workbooks. The pedagogical problem of teach-
ing words is here reduced to the simplest possible terms.
The items presented are those which enter into every-
day vocabulary, but there is also that outreaching that
is so important; the extension of word knowledge be-
yond the familiar that will add strength to the stu-
dent's vocabulary.

An excellent feature of the book is the tests, which
are planned to make apparent to the student the strength
or weakness of his own vocabulary achievement.

A common fault of exercises is that they require
too much time. In this volume, exercises and tests
are adequate, stimulating, but within reason. A mature
student could do any set of the exercises in an hour,
or less. There are only 132 such assignments, and many
of them are self-explanatory.

The scholarly nature of the subject-matter of the
book at once suggests that the little volume will be
most successful, in the elementary grades, in the hands
of the teacher rather than of the children. No teacher
can become acquainted with this book without self-
improvement in vocabulary, and no successful teacher,

alert to the vocabulary problems of her children, will fail to adapt the materials to their needs. In the upper grades and high school the pupils themselves can profitably use the book. If teachers in training were required to study the volume, great benefit to their pupils would result.

This volume does not, of course, replace such classics as Greenough and Kitteridge's *Words and Their Ways in English Speech,* but it does make immediately available the essentials of the subject in a manner so attractive and helpful as to encourage further study.

—C. C. C.

EDITORIAL

that there are degrees of knowing. Words grow within one's mind, as they do within the common speech. Some get richer, some more academic, and some deteriorate.

Nor must the educator become over-anxious to efface from the pages of literature all that is magic and avocative in language because the words are not commonly used by children. To delete words of charm and power, and replace them with the petty coinage of pedagogues is to destroy the influence that "enlarges the soul." Even though children do not understand words thoroughly, the reading has done something for them. Some

years ago, the late Bert Roller reported that children heartily enjoyed certain poems that they apparently did not at all understand, or at least could not explain clearly. But who will say that these children, in their reading, did not at least enlarge their stock of words and their capacity for enjoyment. And enjoyment, let us never forget it, is the basis of culture.

Let us not, then, restrict children's vocabularies, either in expression or in literature. Better words not understood than neither words nor understanding, for with words in mental stock, understanding, enjoyment, character, and culture have soil in which to grow.

Eighth Annual Meeting

of

The National Conference on Research in English

Cleveland, Ohio—February 25 to February 28, 1939

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Saturday, February Twenty-fifth

Noon — 12:30 o'clock, and early afternoon
} Luncheon, 12:30 p. m.
Salle Moderne Room
Hotel Statler
Reservations in advance ($1.50); write the Conference
Secretary*

Presiding: ANGELA M. BROENING, President; Department of Supervision and Research, Public Schools, Baltimore, Maryland.

A Plan for Investigation in Elementary English Language and Composition (20 minutes)— B. R. BUCKINGHAM, Chairman, Committee on Elementary School Language and Composition; Directing Editor, Elementary School Textbooks, Ginn and Company, Boston.

Reading in the Intermediate Grades (20 minutes) A Research Bulletin in preliminary form. Presentation—WILLIS L. UHL, Chairman; Dean, College of Education, University of Washington, Seattle.
Discussion (10 minutes)—GERTRUDE WHIPPLE, College of Education, Wayne University, Detroit.

Fact-Burden as a Cause of Reading Difficulty (20 minutes)—E. W. DOLCH, College of Education, University of Illinois, Urbana.

Unpublished Studies in Elementary School English: Committee Report, 1938.
Presentation (20 minutes)—JOHN P. MILLIGAN, Chairman, Supervisor of Student Teaching, State Teachers College, Newark, N. J.
Discussion (15 minutes)—ROY IVAN JOHNSON, Stephens College, Columbia, Missouri; RICHARD A. FOSTER, Ohio University, Athens; KATHARINE L. McLAUGHLIN, University of California at Los Angeles.

A Handbook of English for Boys and Girls, Grades 7 to 9: A Report.
Presentation (20 minutes)—ANGELA M. BROENING, Chairman.
Discussion (10 minutes)

Business: Announcements by the Conference Secretary.

Monday, February Twenty-seventh

Morning Meeting 9:15 o'clock } Joint Meeting with the Department of Classroom Teachers of the National Education Association The Little Theatre, Cleveland Auditorium

Presiding: WILLIAM S. GRAY, Vice-President of The National Conference on Research in English; Department of Education, University of Chicago. Dr. Gray will lead the discussion at the close of the program.

Platform Guests: ANGELA M. BROENING, President of The National Conference; MYRTLE HOOPER DAHL, President, The Department of Classroom Teachers; and other officers of the two organizations.

A Panel Discussion on the General Topic: *Vitalizing and Promoting Growth in Reading on the Part of all the Pupils—*

    9:20 *Through the Experience Curriculum*—HELEN HEFFERNAN, Elementary School Supervisor, State Department of Education, Sacramento, California (12 minutes).

    9:34 *Through the Reading Program in the Kellogg School*, Portland, Oregon—DAISY NEWHOUSE, Classroom Teacher (12 minutes).

    9:48 *Through Cultivation of the Reading Tastes of Children*—G. A. YOAKAM, Professor of Education and Director of Elementary Grades, University of Pittsburg, Pittsburg, Pa. (12 minutes).

    10:02 *Through the Reading Program in the Nassau School*, East Orange, N. J.—C. DE-WITT BONEY, Principal (12 minutes).

    10:16 *Through the Reading Program in the Roosevelt School*, Detroit, Michigan—ESTHER SMEED, Classroom Teacher (12 minutes).

    10:30 *Through the Reading of New Books*—HELEN FERRIS, Editor, Young Wings, Junior Literary Guild, New York City (12 minutes).

    10:44 *Through the Reading Program in the Tuttle School*, Minneapolis, Minnesota—VELMA DENNY, Classroom Teacher (12 minutes).

    10:58 *Through the Integrated Curriculum*—E. E. OBERHOLTZER, Superintendent of Public Schools and President of Houston University, Houston, Texas (12 minutes).

    11:12-11:45 Discussion from the floor led by the Chairman.

Announcements.

Tuesday, February Twenty-eighth

Morning Meeting 9:15 o'clock } Joint Meeting with the American Educational Research Association Clubroom "B", Public Auditorium

Presiding: BESS GOODYKOONTZ, Vice-President, American Educational Research Association; Assistant United States Commissioner of Education, Washington.

A Study of Certain Language Problems of Children in the Elementary Schools.

    9:20 *Social Demands of English: Evaluation of Proposed Research*—DORA V. SMITH, School of Education, University of Minnesota, Minneapolis (20 minutes).

    9:42 *More Obvious Social Needs for English Expression*—WILLIAM L. CONNER, Superintendent of Schools, Allentown, Pennsylvania (20 minutes).

    10:04 *Social Problems Complicating the Language of Children*—LOU L. LABRANT, Ohio State University, Columbus (20 minutes).

    10:26 *Language and Emotional Development*—DANIEL A. PRESCOTT, Rutgers University, New Brunswick, N. J. (20 minutes).

    10:48-11:30 Discussion from floor led by chairman.

Announcements.

Tuesday, February Twenty-eighth

Noon — 12:00 o'clock, and early afternoon
⎱ Luncheon—12:00
Euclid Ball Room
Hotel Statler
Reservations in advance ($1.50); write the Conference Secretary*. Tickets on sale until 10:00 a. m., Tuesday, at the Ticket Booth of The American Association of School Administrators. To insure a seat, buy early! No tickets sold at the door.

Presiding: ANGELA M. BROENING, President.

Vocabulary Problems in the Elementary Schools: The Seventh Annual Research Bulletin.

Presentation (20 minutes)—J. C. SEEGERS, Chairman, Temple University, Philadelphia.

Critiques (20 minutes each)

W. S. GRAY, Department of Education, University of Chicago.

ERNEST HORN, School of Education, University of Iowa.

THOMAS A. KNOTT, University of Michigan.

EDWARD LEE THORNDIKE, Teachers College, Columbia, University.

Business: Announcements by The Conference Secretary.

Officers of the Conference, 1938

President: ANGELA M. BROENING, Department of Supervision and Research, Public Schools, Baltimore, Maryland.

Vice-President: WILLIAM S. GRAY, Professor of Education, University of Chicago, Chicago, Illinois.

*Secretary-Treasurer: C. C. CERTAIN, Box 67, North End Station, Detroit, Michigan. Convention Address: Hotel Statler.

Executive Committee: Officers of The Conference, and BESS GOODYKOONTZ, Assistant Commissioner of Education, U. S. Office of Education, Washington, D. C.; MAUDE McBROOM, Principal, University Elementary School, School of Education, The State University of Iowa, Iowa City, Iowa; ROBERT C. POOLEY, Associate Professor of English, University of Wisconsin, Madison, Wisconsin.

Proceedings and official papers published in
THE ELEMENTARY ENGLISH REVIEW
Detroit, Michigan

Publications
of
The National Conference

BULLETINS

1. **Research in Elementary Language:** A Report of Problems and Progress. Harry A. Greene, Director, Bureau of Educational Research and Service, University of Iowa, Iowa City. 1933. Out of print. See library files of THE ELEMENTARY ENGLISH REVIEW.

2. **A Critical Summary of Selective Research in** Elementary School Composition, Language, and Grammar. Walter Scribner Guiler, School of Education, Miami University, Oxford, Ohio, and Emmett Albert Betts, Pennsylvania State College, 1934. Out of Print. See library files of THE ELEMENTARY ENGLISH REVIEW.

3. **Reading Disabilities and Their Correction:** A A Critical Summary of Selective Research. Emmett Albert Betts, Pennsylvania State College. 1935. Out of Print. See library files of THE ELEMENTARY ENGLISH REVIEW.

4. **Research Problems in Reading in the Elementary School:** Donald D. Durrell, School of Education, Boston University. 1936. Scott, Foresman and Co. Chicago.

5. **Principles of Method in Elementary English Composition:** Harry A. Greene, Director, Bureau of Educational Research and Service, University of Iowa. 1937. Scott, Foresman, Company, Chicago.

6. **Elementary School Language Textbooks:** A Survey of their Use and a Summary of Related Research Studies. Mildred A. Dawson, University of Tennessee. 1938. Scott, Foresman and Company, Chicago.

7. **Vocabulary Problems in the Elementary School:** J. Conrad Seegers, Temple University, Philadelphia. With critiques by W. S. Gray, Ernest L. Horn, Thomas E. Knott, and Edward L. Thorndike. 1939. Scott, Foresman and Company, Chicago.

COMMITTEE REPORTS

1. **A Bibliography of Unpublished Studies in Elementary School English, 1925-1934.** Josephine MacLatchy, Bureau of Educational Research, Ohio State University, Columbus. 1936. See library files of THE ELEMENTARY ENGLISH REVIEW.

2. **A Bibliography of Unpublished Studies in Elementary School English.** Bess Goodykoontz, Assistant U. S. Commissioner of Education. 1937. Scott, Foresman and Company, Chicago.

3. **A Bibliography of Unpublished Studies in Elementary School English.** 1938-1939. John P. Milligan, Director of Student Teaching, State Teachers College, Newark, N. J. Forthcoming.

HANDBOOK

A **Handbook of English for Boys and Girls** (grades 4-6). By Delia E. Kibbe, Lou L. La Brant, and Robert C. Pooley, Chairman. 1939. Scott, Foresman and Company, Chicago.

APPLICATION BLANK

Mr. C. C. CERTAIN, Secretary,
The National Conference on Research
    in English,
Box 67, North End Station,
Detroit, Michigan.

Please accept my application for Associate Membership in THE NATIONAL CONFERENCE ON RESEARCH IN ENGLISH. I enclose $2.00 for annual dues, and $2.00 (discount price to members) for THE ELEMENTARY ENGLISH REVIEW.

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